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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/813,119

03/31/2004

David L. O'Meara

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EXAMINER

DHINGRA, RAKESH KUMAR

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/813,119 | <b>Applicant(s)</b><br>O'MEARA ET AL. |  |
|                              | <b>Examiner</b><br>Rakesh K. Dhingra | <b>Art Unit</b><br>1763               |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 01 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-45 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-39, 41, 45 drawn to apparatus, classified in class 118, subclass 725.
- II. Claims 40, 42 - 44, drawn to method, classified in class 438, subclass 663.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)).

In this case the process requires DC supply to carbon wire heater whereas the apparatus does not specify any such structure and thus apparatus may be used to practice a materially different process.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

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Further, if applicant elects invention of Group I (apparatus), then this application contains claims directed to at least the following patentably distinct species:

**Species 1:** A wafer heating assembly (generally as per Figures 2A, 2B) comprising of a holding device that has a plurality of recesses and a wafer support configured to support a wafer, a plurality of heating units where one heating unit comprises a tube having a carbon wire heater comprising a carbon fiber bundle and sealed within the tube and each tube being mounted in a recess in the holding device, a connecting terminal coupled to opposing ends of the carbon wire heater, and a mounting assembly coupled to the holding device and configured to mount the wafer heating assembly to a processing chamber where at least one of the heating unit comprises a particular shape and is mounted in a correspondingly shaped recess in the holding device.

**Species 2:** A wafer heating assembly as in species 1 where at least one of the heating unit comprises a plurality of segments with each segment comprising a substantially straight tube having a carbon wire heater comprising a carbon fiber bundle sealed therein, and a connecting terminal coupled to each end of each carbon wire heater, each substantially straight tube/plurality of segments being mounted in a holding device with variously shaped recesses.

**Species 3:** A wafer heating assembly as in species 1 where at least one of the heating unit comprises a plurality of segments with each segment comprising a curved tube having a carbon wire heater comprising a carbon fiber bundle sealed therein, and a connecting terminal coupled to each end of each carbon wire heater, and the plurality of segments being mounted in a holding device with curved recess.

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**Species 4:** A wafer heating assembly as in species 1 where at least one of the heating unit comprises transitional elements coupled to respective ends of the tube, and a sealing terminal portion coupled to the transitional elements, each connecting terminal being coupled to at least one sealing terminal portion.

**Species 5:** A wafer heating assembly as in species 1 where at least one of the heating unit further comprises endpoint elements coupled to opposite ends of the carbon wire heater, the endpoint elements comprising compressed wire carbon members, and the carbon wire heater being buried in the compressed wire carbon members.

**Species 6:** A wafer heating assembly as in species 1 wherein the carbon wire heater comprises a carbon wire, the carbon wire comprising at least one bundle of carbon fibers, each bundle comprising at least 300 carbon fibers each having a diameter of between 5 and 15 micrometers.

**Species 7:** A wafer heating assembly as in species 1 where the wafer support comprises a plurality of raised portions.

**Species 8:** A wafer heating assembly as in species 1 where the assembly also comprises an additional heating unit comprising an additional tube having a carbon wire heater comprising a carbon fiber bundle and sealed within the additional tube, and a connecting terminal coupled to opposing ends of the carbon wire heater of the additional heating unit, and an additional mounting assembly coupled to the additional holding device and configured to position the additional heating unit above/around the wafer support and further with/without an additional holding device coupled to the additional tube.

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Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, at least claim 1 appears to be generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Applicant is advised that the reply to this requirement to be complete must include (i) an election of the invention and ii) species (if applicable) to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

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Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh K. Dhingra whose telephone number is (571)-272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rakesh Dhingra



Parviz Hassanzadeh  
Supervisory Patent Examiner  
Art Unit 1763